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September 15, 2014

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Subject: *End of Fieldwork Letter Report for Archaeological Data Recovery of Eight Historic Properties (SIHP #s 50-80-14-2918, -2963, -5820, -5966, -7190, -7427, -7428, and -7429) in the City Center (Section 4) of the Honolulu Rapid Transit Project (HRTP), Kalihi, Kapālama, Honolulu, and Waikīkī Ahupua'a, Honolulu (Kona) District, O'ahu, TMKs: [1] 1-5, 2-1, and 2-3 (Various Plats and Parcels)*

CSH Job Code: HONOLULU 44

Dear Dr. Lebo and Mr. Rodrigues:

The purpose of this letter is to provide you with an end of fieldwork report on the archaeological data recovery conducted for City Center (Section 4) of the Honolulu Rapid Transit Project (HRTP) and to request verification of completion of the detailed mitigation plan pursuant to Hawai'i Revised Statutes (HRS) §13-13-275-9(d). The comprehensive archaeological data recovery report is currently being prepared and will be submitted upon completion.

On behalf of the Honolulu Authority for Rapid Transportation (HART) of the City and County of Honolulu (City) and the Federal Transit Administration (FTA) and at the request of PB Americas, Inc. (PB), Cultural Surveys Hawai'i, Inc. (CSH) conducted an archaeological data recovery investigation for City Center (Section 4) of the HRTP, Kalihi, Kapālama, Honolulu, and Waikīkī Ahupua'a, Honolulu (Kona) District, O'ahu, TMKs: [1] 1-5, 2-1, and 2-3 (various plats and parcels). The entire proposed HRTP corridor extends approximately 20 miles (32 km) from East Kapolei in the west to Ala Moana Center in the east. The HRTP corridor is divided into four sections. From west to east these are Section 1, West-O'ahu/Farrington Highway, extending from East Kapolei to approximately Leeward Community College; Section 2, Kamehameha Highway, extending from Leeward Community College to

Aloha Stadium; Section 3, Airport, extending from Aloha Stadium to approximately the Middle Street Interchange; and Section 4, City Center, extending from Middle Street to Ala Moana Center (Figure 1). The focus of this archaeological data recovery investigation was the eastern-most 4.3 miles (6.9 km) of the overall HRTP corridor, termed the City Center study area. The City Center study area includes all of Section 4 and, in order to provide continuity, the eastern-most portion of Section 3 (Airport). The City Center study area extends from Kalihi Stream in the west to Ala Moana Center in the east.

The purpose of the HRTP is to provide high-capacity rapid transit in the highly congested east-west transportation corridor between Kapolei and Ala Moana Center via a fixed guideway rail transit system. The project involves the proposed construction of transit stations and ancillary support facilities, relocation of a utility corridor, installation of additional utilities, and road widening.

Due to federal (FTA) funding and the use of federal (U.S. Navy) lands (in Section 3), this project is a federal undertaking requiring compliance with Section 106 of the National Historic Preservation Act (NHPA), the National Environmental Policy Act (NEPA), and Section 4(f) of the Department of Transportation Act. Through the Section 106 historic preservation review process, the project's lead federal agency, FTA, determined that the project will have an adverse effect on historic properties currently listed, or eligible for listing, on the National Register of Historic Places (National Register). The Hawai'i State Historic Preservation Officer (SHPO) concurred with this undertaking effect determination.

To mitigate the undertaking's potential adverse effect, a Programmatic Agreement (PA) was executed on January 18, 2011 with the FTA, the Hawai'i SHPO, the United States Navy, and the Advisory Council on Historic Preservation as signatories and the City as an invited signatory. PA Stipulation III required that an archaeological inventory survey plan (AISP) be prepared and accepted by the SHPD for each of the four HRTP construction sections. An AISP for City Center (Hammatt et al. 2011) was prepared and was accepted in the 25 October 2011 SHPD Section 106 review letter (Log No. 2011.2379, Doc. No. 1110NN08).

Subsequently, consideration was given to an alternate site (Alternate A) for the Kaka'ako Station located approximately 50 m northeast (*mauka*) of the Kaka'ako Station location addressed in the Hammatt et al. (2011) City Center AISP. This alternate station site and associated minor changes to the immediately adjacent guideway alignment were addressed in an Addendum AISP (Hammatt et al. 2013). The Addendum AISP was accepted in the 1 March 2013 SHPD Section 106 review letter (Log No. 2013.1958, Doc. No. 1302SL28).

The City Center AIS report (Hammatt 2013) was accepted in the 26 August 2013 SHPD Section 106 review letter (Log No. 2013.2564/2013.4338, Doc. No. 1308SL21). The AIS report for all four sections of the HRTP was accepted in the SHPD Section 106 review letter of 27 August 2013 (Log No. 2013.4987, Doc. No. 1308SL23).

Following AIS fieldwork, an Interim Protection Plan (IPP) for the HRTP (Hammatt and Shideler 2013) was completed. The plan addressed interim protection measures for all of the cultural resources identified within the four sections of the project. The IPP was accepted in the SHPD review letter of 29 August 2013 (Log No. 2013.5066A, Doc. No. 1308PA01).

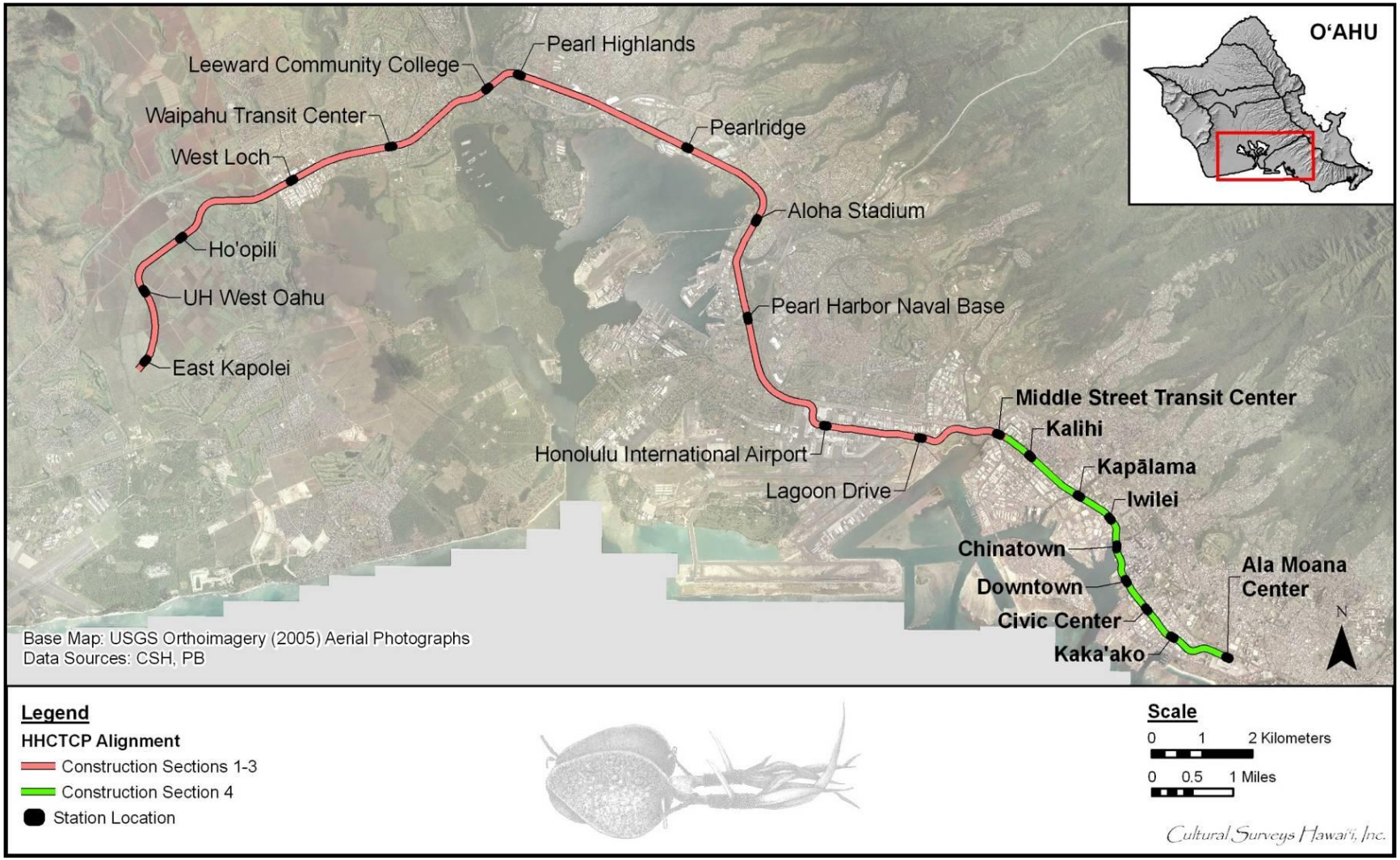

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Figure 1. Aerial photograph (source: USGS Orthoimagery 2005) showing the entire HRTP corridor from East Kapolei to Ala Moana Center, including station locations, with the City Center AIS study area called out in green

The City Center archaeological data recovery plan (ADRP) (Yucha et al. 2014) was prepared in consideration of Stipulation III.E.2. (describing data recovery programs) of the project's final PA (January 2011) and the *Secretary of the Interior's Guidelines for Archeology and Historic Preservation* and in accordance with HAR §13-13-278 governing standards for archaeological data recovery studies and reports. The ADRP was accepted in the 13 January 2014 SHPD Chapter 6E-8 and Section 106 review letter (Log No. 2014.00077, Doc. No. 1401SL05).

The ADRP recommended eight of the 19 archaeological cultural resources identified within, or immediately adjacent to, the City Center AIS study area for data recovery (Figure 2). The data recovery investigation will serve to mitigate the project's effect on these significant cultural resources. The eight selected cultural resources are SIHP #s 50-80-14-2918, a subsurface cultural deposit including human burials; -2963, a subsurface cultural deposit, subsurface pond sediments, human burials, and animal burials; -5820, a subsurface cultural deposit including human burials; -5966, subsurface remnants of Kawa Fishpond; -7190, subsurface salt pan remnants; -7427, subsurface historic infrastructure remnants, subsurface cultural deposits, and a human skeletal element; -7428, a subsurface cultural deposit and subsurface infrastructure remnants; and -7429, a subsurface cultural deposit and a human skeletal element (Table 1). Table 1 includes significance assessments as well as additional mitigation recommendations for each cultural resource that will be addressed in separate documents.

The data recovery investigation began on 7 February 2014 and was completed on 17 May 2014. Archaeological data recovery fieldwork was performed under the supervision of Matt McDermott, M.A., and Hallett H. Hammatt, Ph.D. (Principal Investigators). Field staff included 26 CSH archaeologists: Scott Belluomini, Douglas Borthwick, Kelly Burke, Lauren Compton, Amanda Eggers, Brittany Enanoria, Nathaniel Garcia, Megan Hawkins, Nigel Kingsbury, Frederick LaChance, Kimi Matsushima, Leandra Medina, Laura Ortiz, Malina Reveal, Andrew Soltz, Ena Sroat, Tyler Turran, Laura Vollert, Tim Zapor, Tara del Fierro, David Doig, Nifae Hunkin, Douglas Inglis, Robin Keli'i, Veronica Morriss, and Michael Rivera. The fieldwork required 2,309.5 person-hours or approximately 289 person days to complete.

Cultural monitoring for this project was performed by 'Ōiwi Cultural Resources. Cultural monitors included 16 individuals: Paulette Ka'anohi Kaleikini, Guyson Amina, Norman Caceres, Tawnya Domingo, Kealii Gilman, Kala Kaleikini, Tuahine Kaleikini, Euelray Kaleihau Kamauu, Olana Kamohalii, Kimball Kaopio, Kala Keliinoi, George McIntosh, Lanaytte Paia, Justin Pratt, Moani Soares, and JR Williams. This work entailed 1124.5 person-hours or approximately 141 person days.

During the current data recovery investigation, one or more locations within each of the eight cultural resources were chosen for controlled excavation (Figure 3 through Figure 10). Data recovery of SIHP # -2918 involved the excavation of three trenches: T-226E, T-226F, and T-227C. The data recovery of SIHP # -2963 involved the excavation of two trenches: T-122B and T-123A. The data recovery of SIHP # -5820 involved the excavation of three trenches: T-150A, T-150B, and T-150C. The data recovery of SIHP # -5966 involved the excavation of four trenches: T-95A, T-95A extension, T-95B, and T-95C. The data recovery of SIHP # -7190 involved the excavation of one trench: T-229A. The data recovery of SIHP # -7427 involved the excavation of five trenches: T-99A, T-100A, T-100B, T-101A, and T-101B. The data recovery of SIHP # -7428 involved the excavation of three trenches: T-120C, T-120D, and T-120E. The data recovery of SIHP # -7429 involved the excavation of two trenches: T-168C and T-168D.

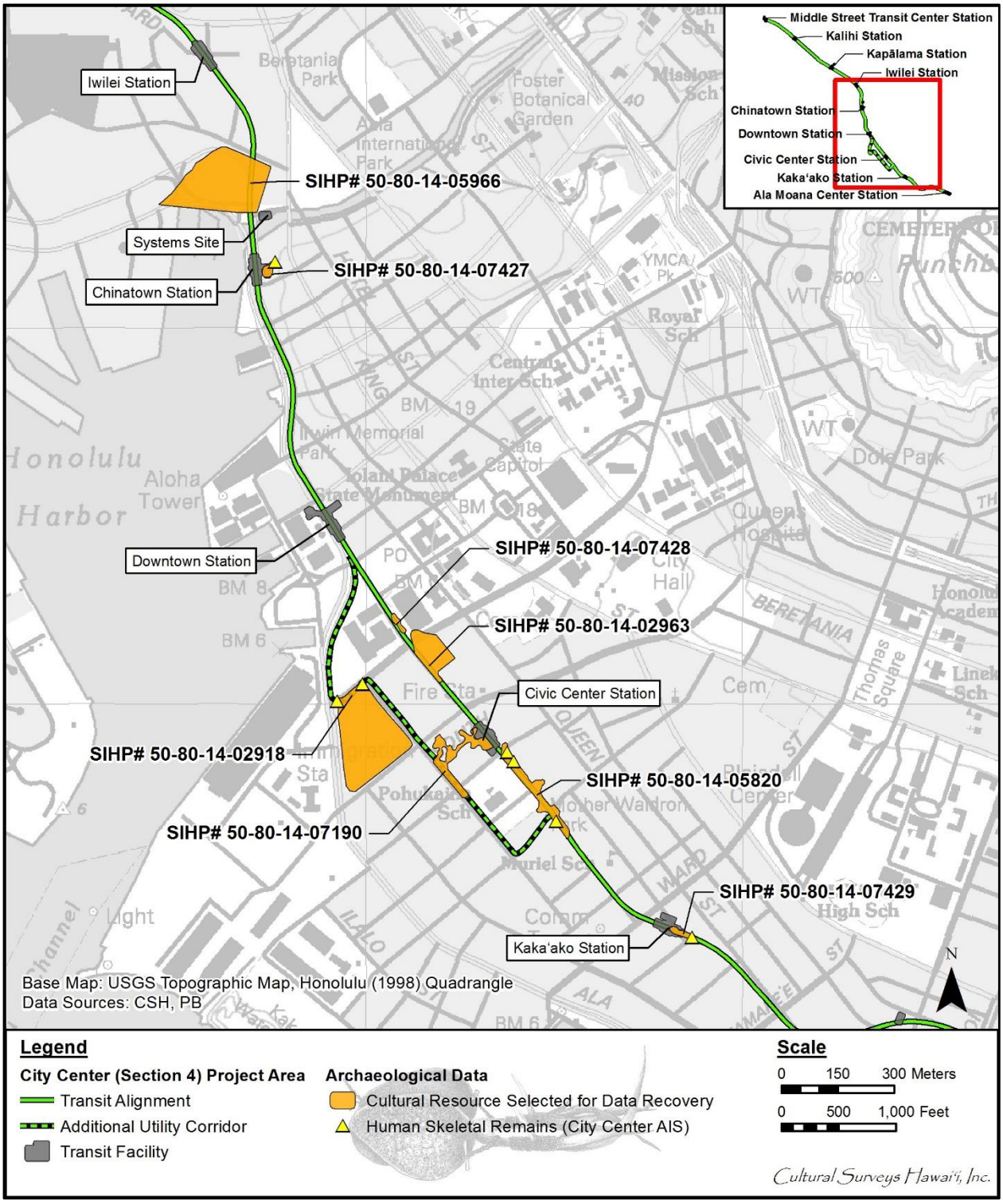

Figure 2. Cultural resources selected for data recovery within the City Center study area

Table 1. Archaeological Cultural Resources Selected for Data Recovery

SIHP # 50-80-14-	Description/Formal Type	Tax Map Keys	Land Jurisdiction	Significance		Additional Mitigation Recommendations
				Hawai‘i	National	
2918	Subsurface cultural deposit, human burials	[1] 2-1-027 (Punchbowl St. ROW por.) and [1] 2-1-029:001	City and County of Honolulu	d and e	D	Monitoring and burial treatment
2963	Subsurface cultural deposit, subsurface pond sediments, human burials, animal burials	[1] 2-1-030 (Halekauwila St. ROW por.), [1] 2-1-026:001, and [1] 2-1-031:010	City and County of Honolulu	d and e	D	Monitoring
5820	Subsurface cultural deposit, human burials	[1] 2-1-050:067, [1] 2-1-050 (Halekauwila St. ROW por.), [1] 2-1-051 (Halekauwila St. ROW por.), [1] 2-1-031 (Keawe Street ROW por.), and [1] 2-1-051:003 and :038	Hawai‘i Community Development Authority and the City and County of Honolulu	d and e	D	Monitoring and burial treatment
5966	Subsurface remnants of Kawa Fishpond	[1] 1-5-008:001, :004, :005, :014, :015, :018, :020; [1] 1-5-039; [1] 1-5-039:001, :007, :010; [1] 1-5-040:002, :004; and [1] 2-1-001	Jiriochi Otani Family, Ltd. and the State of Hawai‘i	d	D	Monitoring
7190	Subsurface salt pan remnants	[1] 2-1-030 (Pohukaina St. ROW por.), [1] 2-1-051 (Pohukaina St. ROW por.), and [1] 2-1-030:001 and :043	Kamehameha Schools; City and County of Honolulu	d	D	Monitoring

SIHP # 50-80-14-	Description/Formal Type	Tax Map Keys	Land Jurisdiction	Significance		Additional Mitigation Recommendations
				Hawai‘i	National	
7427	Subsurface infrastructure remnants, subsurface cultural deposits/human skeletal element	[1] 1-5-002:026 and [1] 1-5-002 (Nimitz Hwy. ROW por.)	City and County of Honolulu	d and e	D	Monitoring and burial treatment
7428	Subsurface cultural deposit, subsurface infrastructure remnant	[1] 2-1-026:001 and :022 and [1] 2-1-026 (Halekauwila St. ROW por.)	State of Hawai‘i and the City and County of Honolulu	d	D	Monitoring
7429	Subsurface cultural deposit, human skeletal element	[1] 2-3-002:001 and :059	Victoria Ward, Ltd.	d and e	D	Monitoring and burial treatment

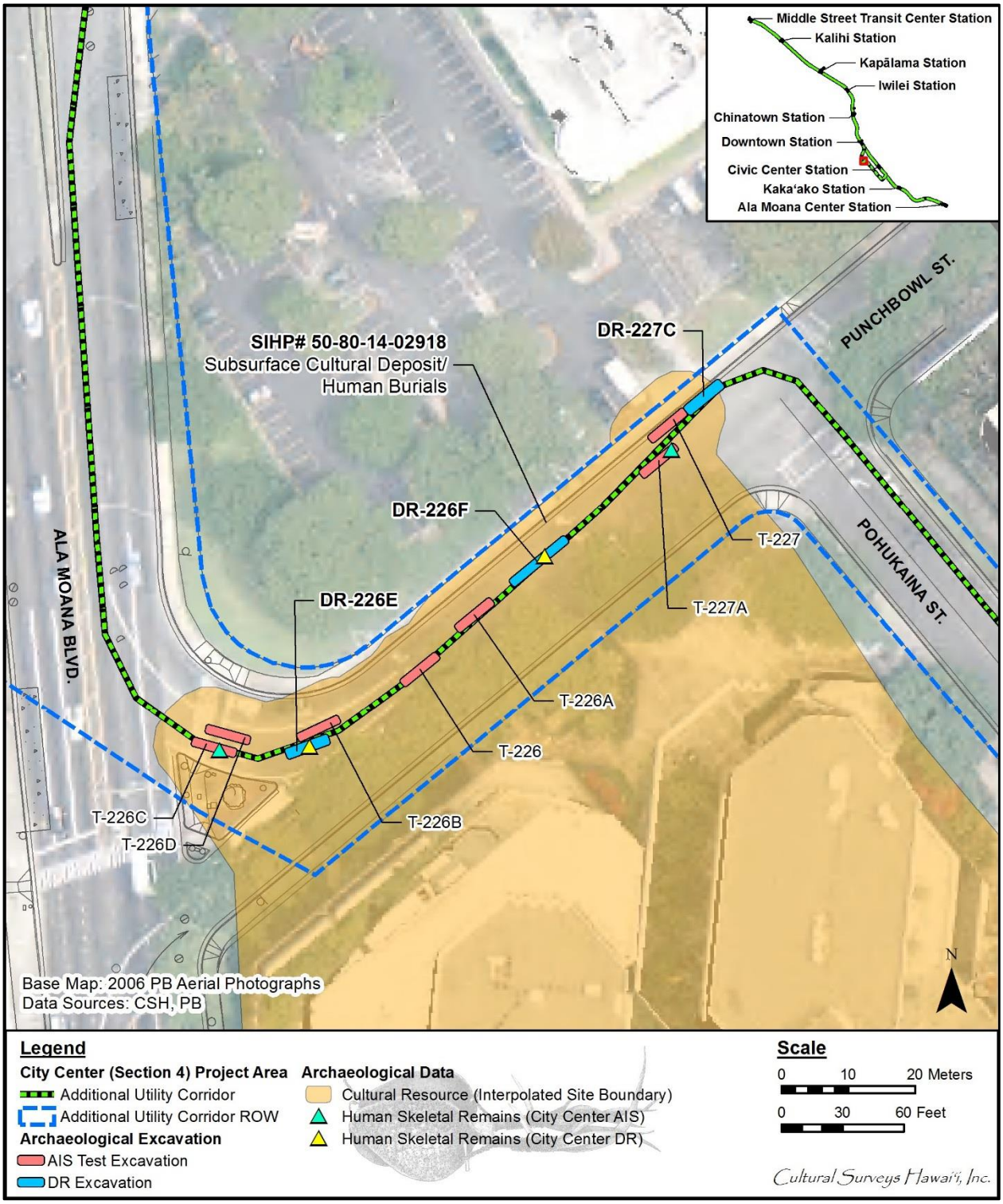

Figure 3. Data recovery test excavation locations within SIHP # -2918

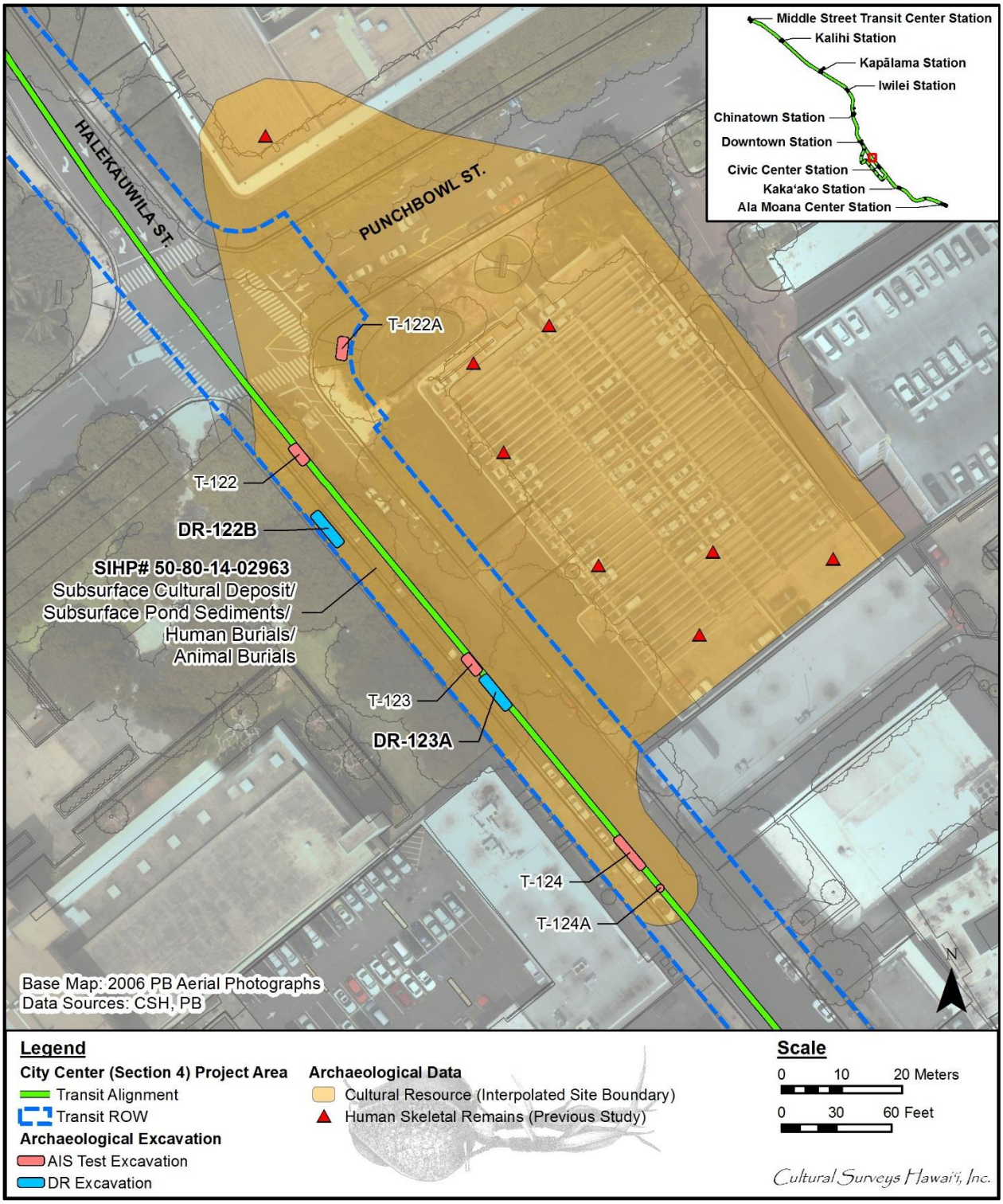

Figure 4. Data recovery test excavation locations within SIHP # -2963

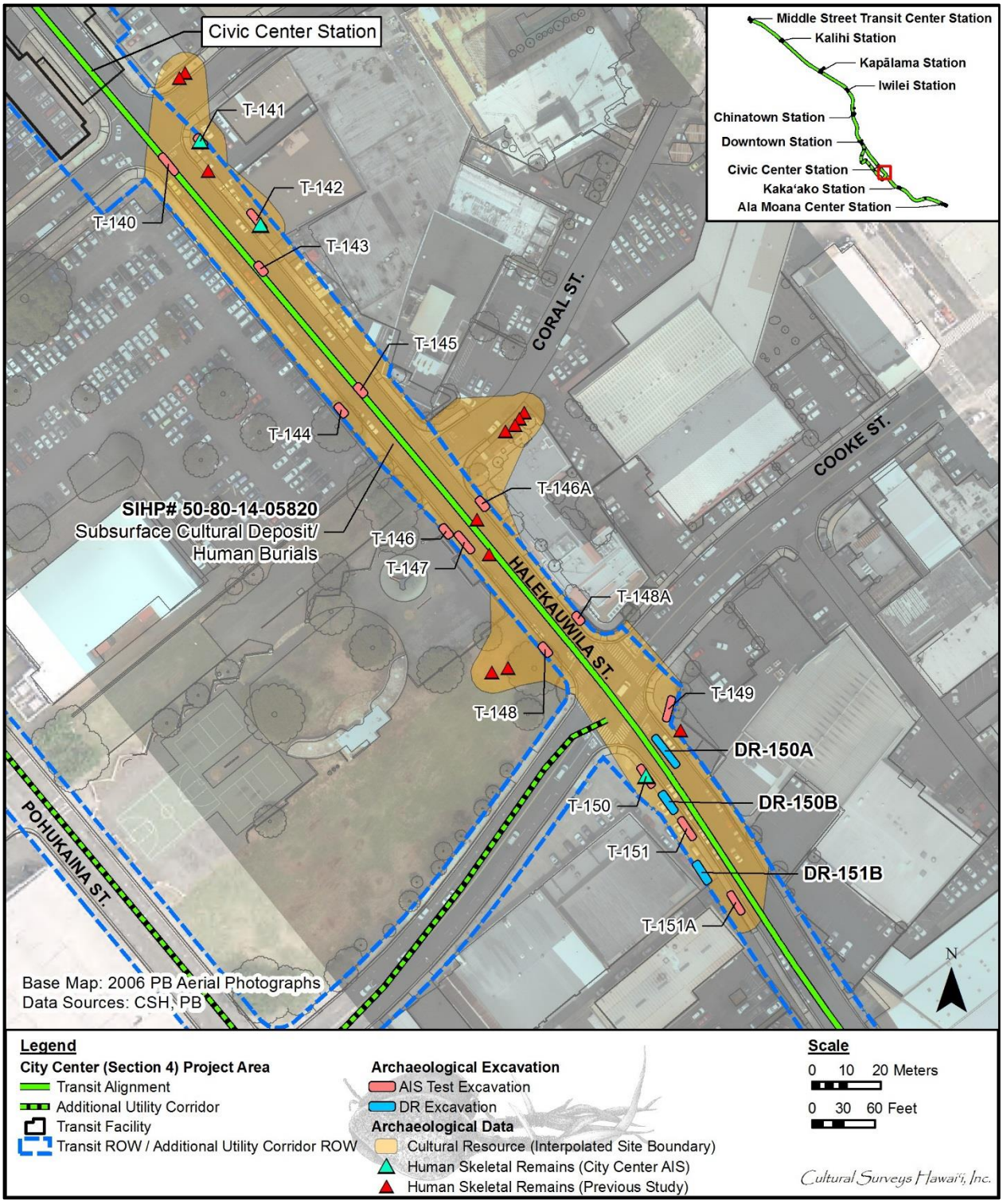

Figure 5. Data recovery test excavation locations within SIHP # -5820

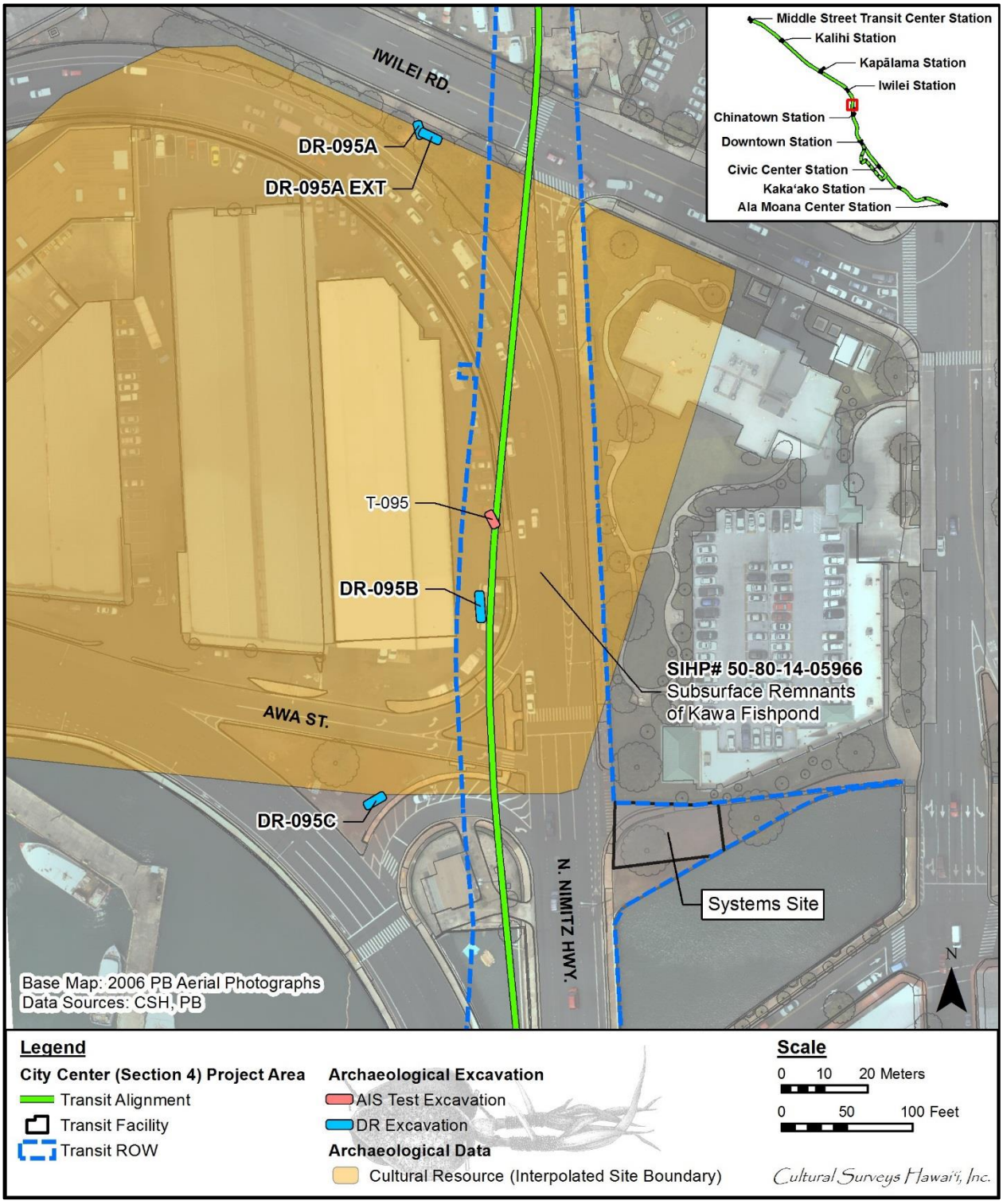

Figure 6. Data recovery test excavation locations within SIHP # -5966

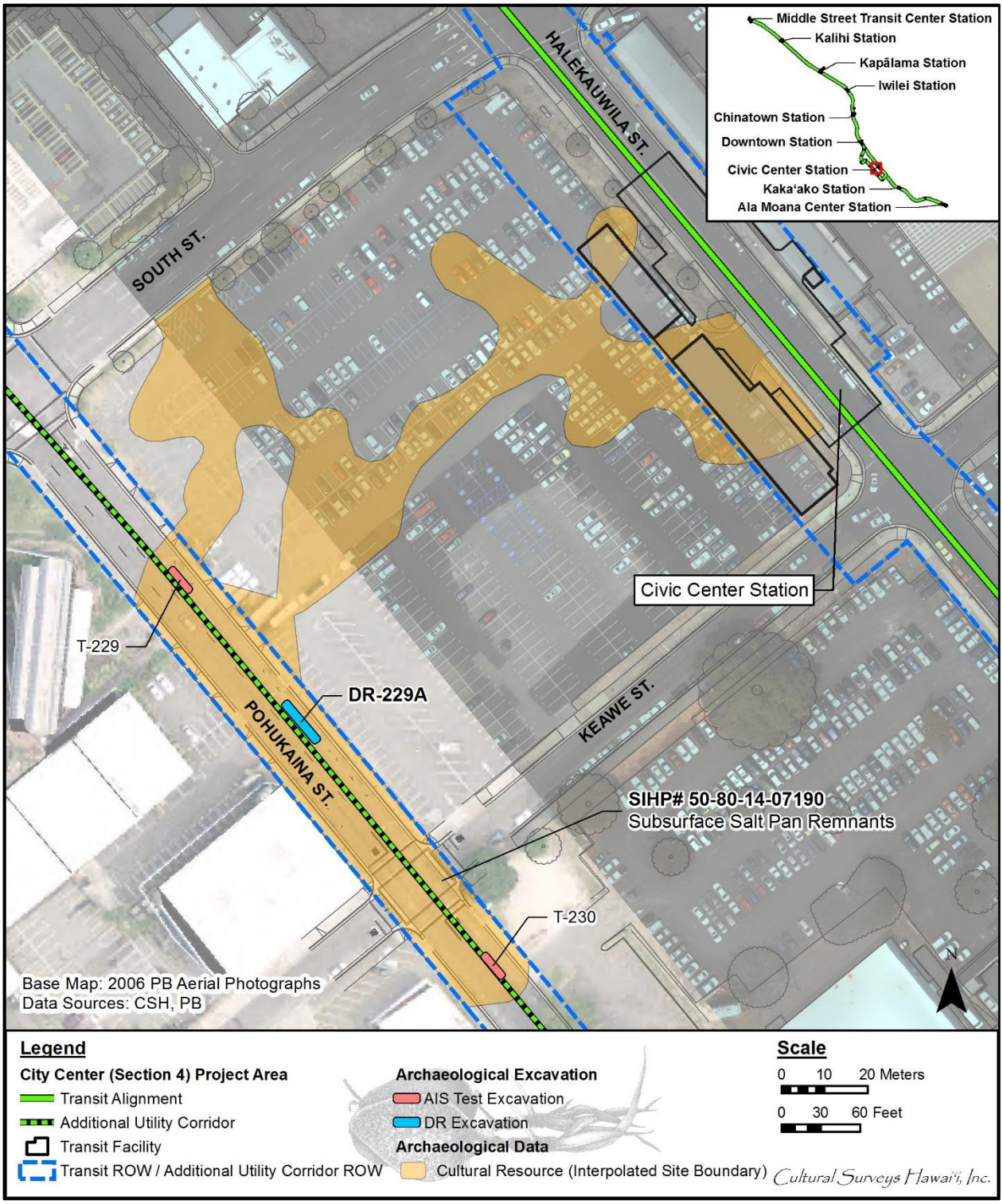

Figure 7. Data recovery test excavation locations within SIHP # -7190

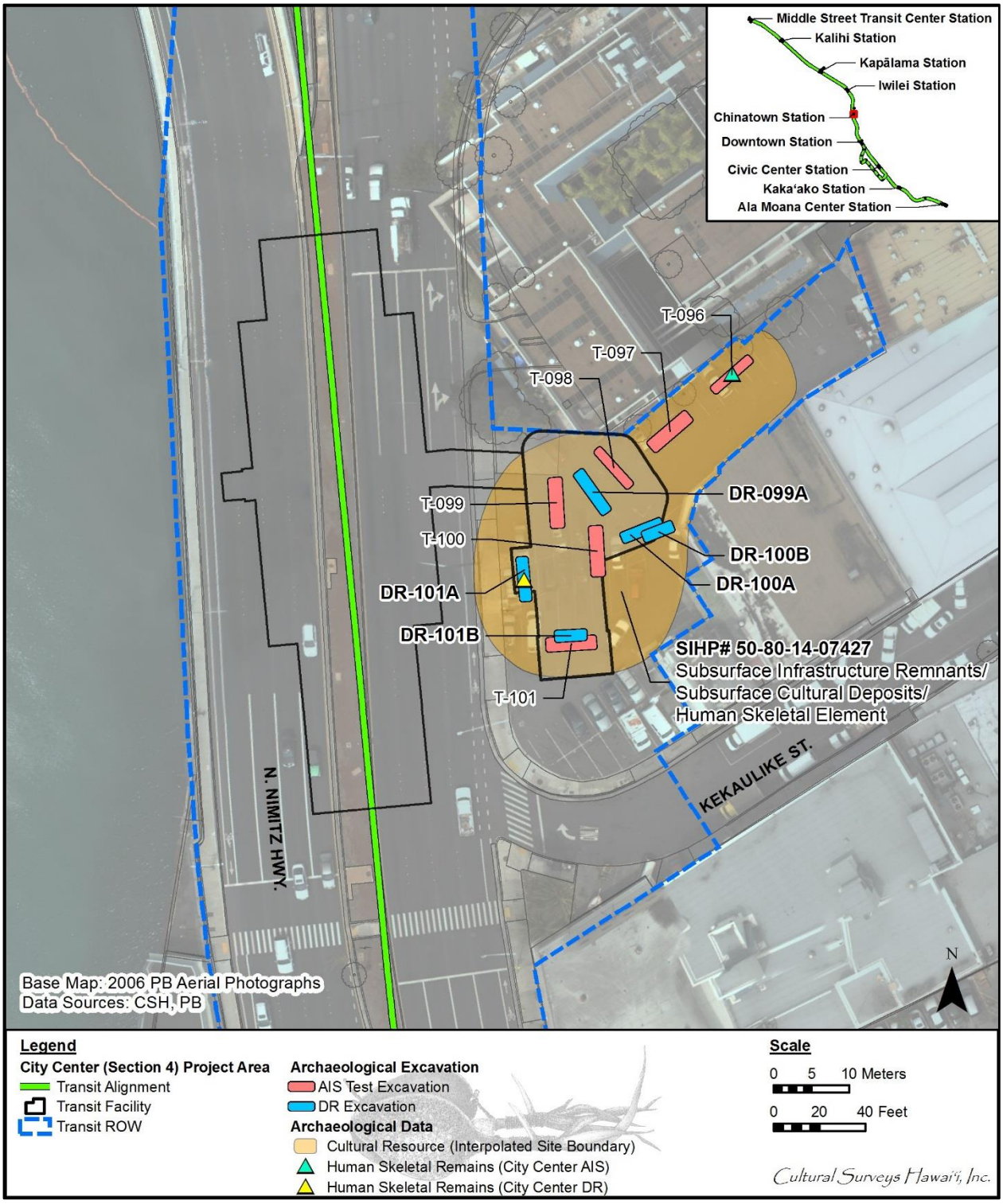

Figure 8. Data recovery test excavation locations within SIHP # -7427

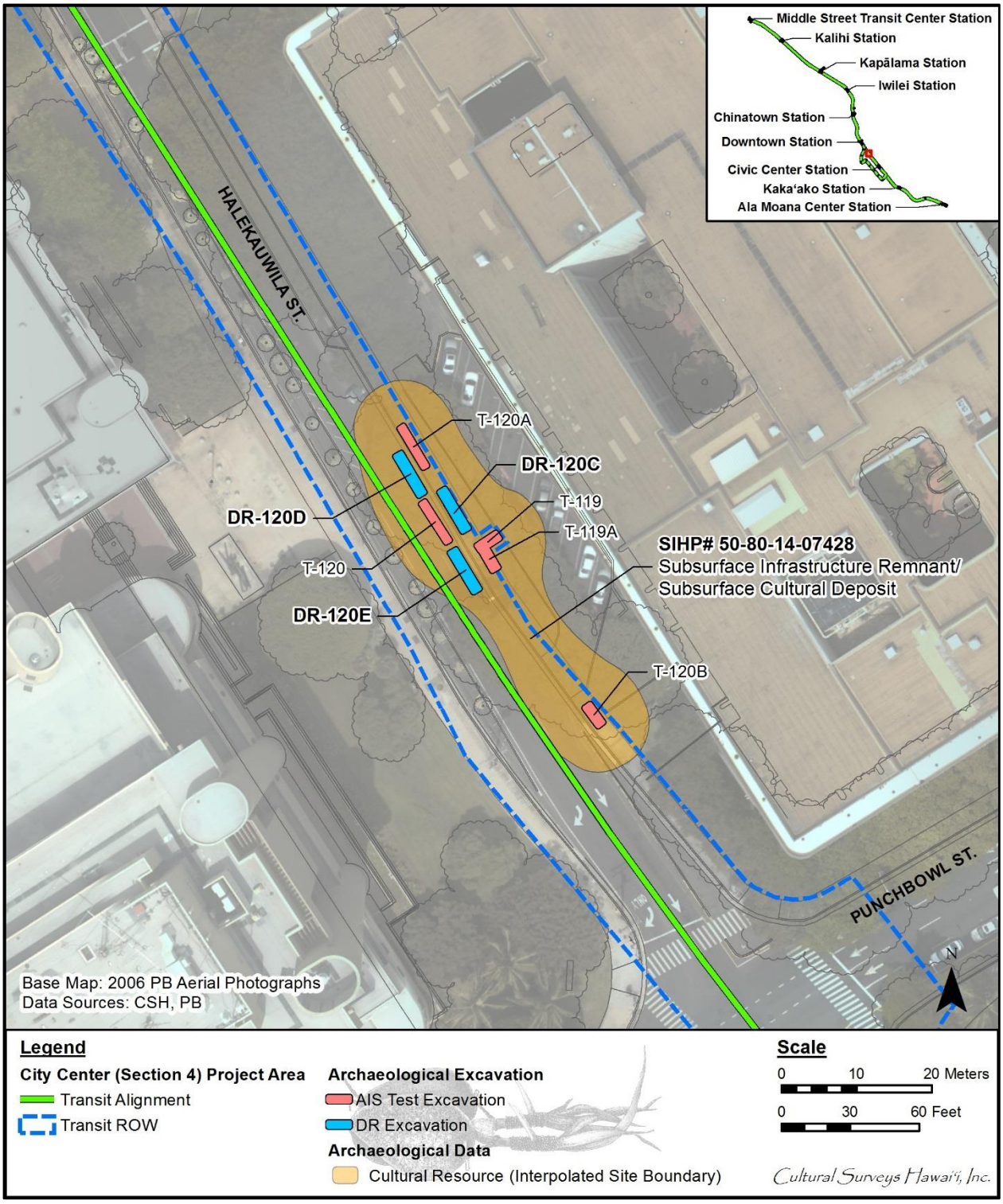

Figure 9. Data recovery test excavation locations within SIHP # -7428

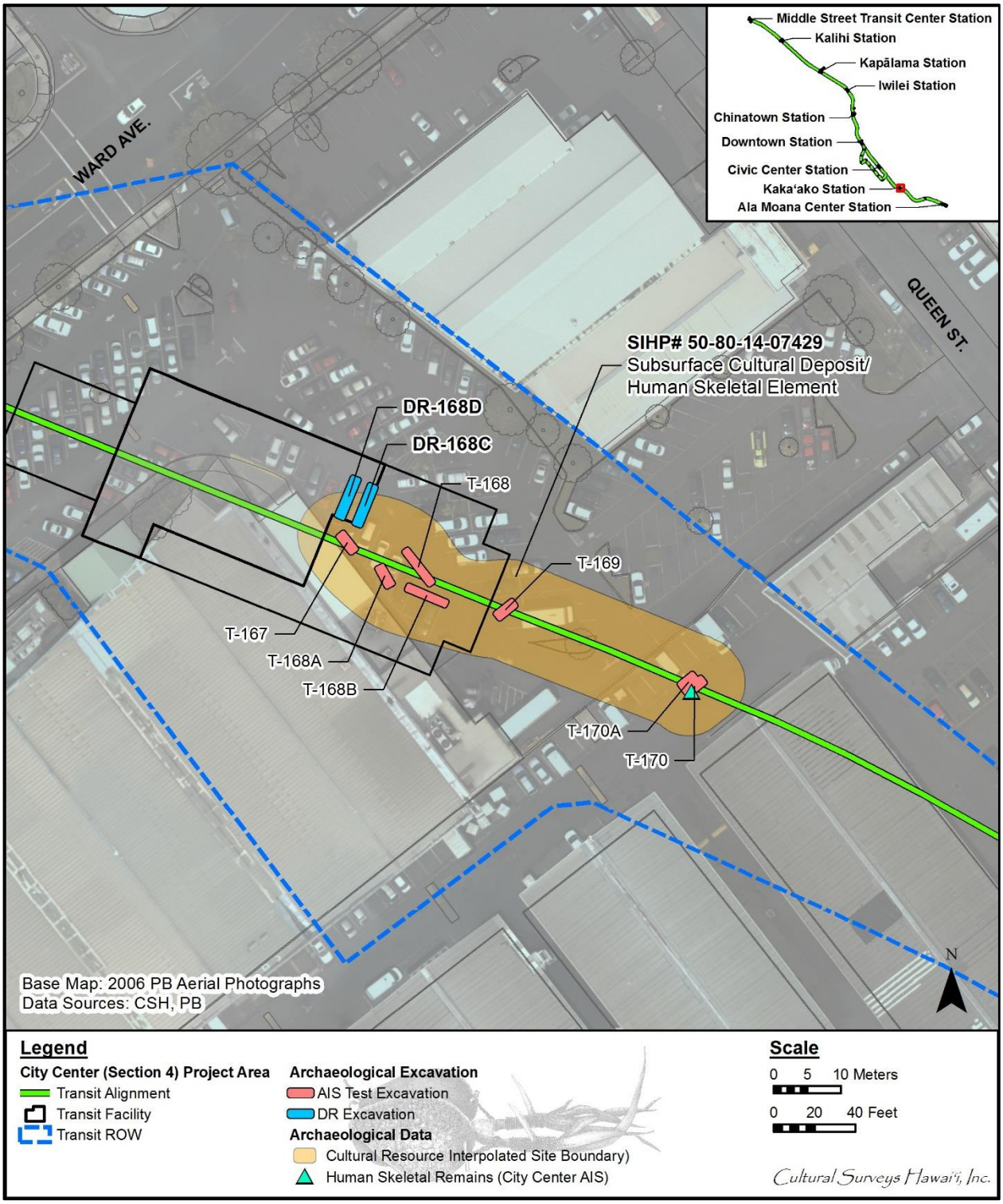

Figure 10. Data recovery test excavation locations within SIHP # -7429

SIHP # -2918

The planned data recovery of SIHP # -2918 (a subsurface cultural deposit including human burials) involved the excavation of three 6-m long by 1-m wide test excavations. Test excavation locations were based on the locations of anticipated project ground disturbance and avoidance of subsurface utilities.

T-226E was located in Punchbowl Street near the Ala Moana intersection. It was oriented 60/240° True North (TN). The test excavation ended up being 6.8 m long by 0.9 m wide, and it reached a maximum depth of 1.5 mbs. Heavy oil contamination was observed at the water table around 1.46 mbs. Three culturally-enriched A-horizons were documented within T-226E. The uppermost cultural layer may be redeposited as it truncated the upper portion of the cultural layer directly beneath it. The lowest cultural layer was separated from the cultural layers above it by a layer of Jaucas sand. The cultural layers contained scattered charcoal, fire-affected rock (FAR), shell, faunal remains, and Traditional Hawaiian and historic artifacts. There were 43 pit features associated with the upper two cultural layers. No features were associated with the lowest cultural layer. Most of the pit features are of indeterminate function and contained cultural material such as charcoal, FAR, shell, faunal bone, sea urchin remains, coral, glass, metal, basalt cobbles, and possible Traditional Hawaiian artifacts. One of the features was a dog burial.

A human rib fragment was identified from within a utility trench that bisected the test excavation. A human cranial fragment was also identified from the backdirt pile, but its exact provenience is unknown other than it appears to have come from thpe same depth as the rib fragment.

T-226F was located along Punchbowl Street between Ala Moana and Pohukaina Street. It was oriented 53/233° TN. The test excavation ended up being 9.81 m long by 1.05 m wide, and it reached a maximum depth of 1.55 mbs. Two culturally-enriched A horizons with 24 associated features were documented within T-226F. The upper cultural layer appears to be an imported fill layer that was utilized as a historic land surface. It was directly overlying the lower cultural layer, and it had one associated feature. The lower cultural layer lay atop natural Jaucas sand and had 23 associated features. The features were mostly pits of indeterminate function, but there were possible midden pits, a historic trash pit, a possible fire pit, and a possible post mold. The features contained cultural material such as charcoal, faunal bone, shell, sea urchin, coral, FAR, basalt cobbles, wood, Traditional Hawaiian and historic artifacts, and isolated human skeletal remains (a cranial fragment from one feature).

T-227C was located in Punchbowl Street at the Pohukaina Street intersection. It was oriented 40/220° TN. The test excavation ended up being 6.85 m long by 1 m wide, and it reached a maximum depth of 1.33 mbs. Two culturally-enriched A horizons with 22 associated features were documented within T-227C. The cultural layers contained faunal bone and Traditional Hawaiian and historic artifacts. The features contained cultural materials such as shell, faunal bone, charcoal, FAR, coral and basalt cobbles, and Traditional Hawaiian and historic artifacts. Most of the features were indeterminate pits, but one was an arrangement of stacked coral and basalt cobbles capped with a waterworn basalt manuport.

All three data recovery test excavations identified multiple cultural layers and associated features designated as part of SIHP # -2918. An additional 89 associated pit features were documented. Isolated human skeletal remains were identified in two of the test excavations.

SIHP # -2963

The planned data recovery of SIHP # -2963 (a subsurface cultural deposit, subsurface pond sediments, human burials, and animal burials) involved the excavation of two 6-m long by 1-m wide test excavations. Test excavation locations were based on the locations of anticipated project ground disturbance, avoidance of subsurface utilities, and the GIS-referenced locations of the interface of pond sediments and A horizon/sand deposits.

T-122B was located in the *makai* sidewalk of Halekauwila Street between Punchbowl and South Streets. It was oriented 130/310° TN. The test excavation ended up being 6.74 m long by 0.94 m wide, and it reached a maximum depth of 1.83 mbs. The test excavation contained a layer of loamy clay material that is interpreted as having been a berm associated with a pond that was formerly in the area. The pond is labeled "Auwaiolimu; Crown Land" on the 1881 Brown map of Honolulu (Figure 11). A layer of coarse-grained sandy clay beneath the berm appears to be pond sediment. Faunal material was observed within the berm material. No features were observed in this test excavation.

T-123A was located in Halekauwila Street between Punchbowl and South Streets. It was oriented 136/316° TN. The test excavation ended up being 6.7 m long by 0.9 m wide, and it reached a maximum depth of 1.9 mbs. One naturally-deposited layer, sandy loam pond sediment, was documented within the test excavation. This layer contained an appreciable amount of brackish snails. Cultural material from the layer included a glass bottle, a painted (blaze orange) wood fragment, and a coconut husk. No features were observed in this test excavation.

Both data recovery test excavations yielded subsurface pond sediments (associated with the "Auwaiolimu; Crown Land" pond) designated as SIHP # -2963.

SIHP # -5820

The planned data recovery of SIHP # -5820 (a subsurface cultural deposit including human burials) involved the excavation of three 6-m long by 1-m wide test excavations. Test excavation locations were based on the location of anticipated project ground disturbance and avoidance of subsurface utilities.

T-150A was located at the corner of Halekauwila and Cooke Streets. It was oriented 142/322° TN. The test excavation ended up being 9.8 m long by 0.63 m wide, and it reached a maximum depth of 1.55 m. The *'ewa* and Diamond Head halves of the test excavation differed considerably. The *'ewa* half of the test excavation contained an in situ historic cultural layer with one associated feature. The *'ewa* cultural layer contained FAR, shell, faunal bone, and historic artifacts. The single feature was a post mold, and it contained a post remnant, FAR, shell, and faunal bone. The Diamond Head half of the test excavation contained two likely redeposited cultural layers above pond sediment. The pond sediment contained organic material (e.g., leaves, roots), shell, faunal bone, and historic artifacts. The Diamond Head cultural layers contained charcoal, FAR, shell, water-rounded cobbles, faunal bone, and historic artifacts. No human remains or burials were identified within this test excavation.

T-150B was located at the corner of Halekauwila and Cooke Streets. It was oriented 136/316° TN. The test excavation ended up being 6.7 m long by 1.5 m wide, and it reached a maximum depth of 1.77 mbs. Two components of a cultural layer were documented within this test excavation. The upper cultural layer component appeared to be locally procured and redeposited

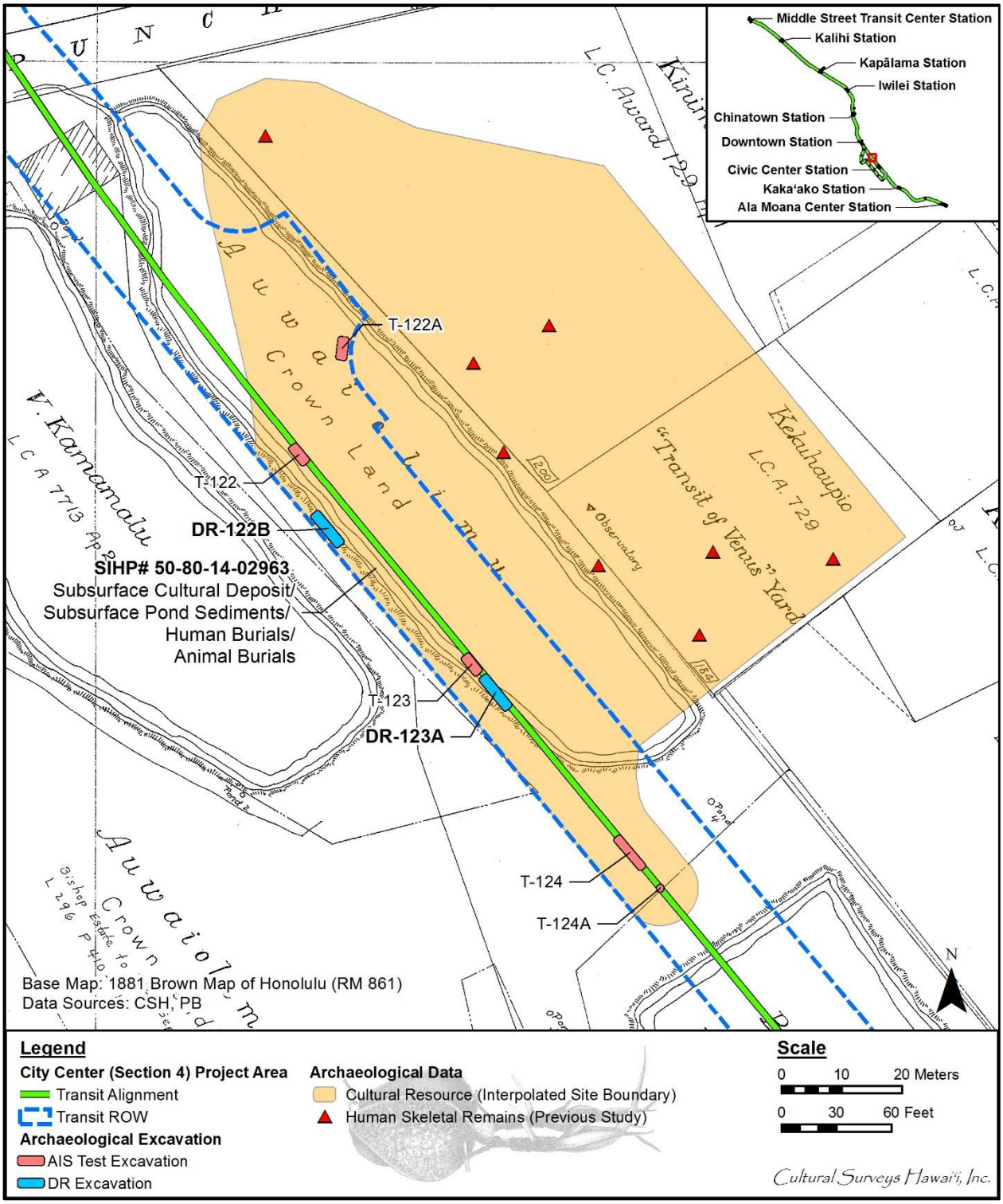

Figure 11. 1881 Brown map of Honolulu depicting T-122B on the edge of a pond labeled "Auwaiolimu; Crown Land"

cultural layer material that was utilized as a historic land surface. This layer truncated the lower cultural layer component. Cultural material contained within these layers included historic artifacts (such as bricks, nails, and ceramic and glass fragments) FAR, shell, and faunal bone. A total of 21 features were associated with these cultural layers. The features contained cultural materials such as charcoal, FAR, shell, asphalt chunks, and historic artifacts. The features were mostly pits of indeterminate function, but there were two post molds and one possible fire pit. No human remains or burials were identified within this test excavation.

T-150C was located at the corner of Halekauwila and Cooke Streets. It was oriented 132/312° TN. The test excavation ended up being 6.7 m long by 0.96 m wide, and it reached a maximum depth of 1.63 mbs. Two cultural layers were documented within this test excavation. The upper cultural layer appears to be redeposited cultural layer material that was utilized in historic times. It was heavily compacted. It is unclear at this time whether the lower cultural layer was also redeposited or if it was in situ. Laboratory analyses may help resolve this. Cultural material contained within these layers included charcoal, faunal bone, shell, and historic artifacts. Nine features were found associated with the upper cultural layer and one feature was found associated with the lower cultural layer. The features were mostly pits of indeterminate function, but there was a pig burial, a post mold, and a charcoal concentration. The ten features contained cultural materials such as charcoal, slag, and faunal bone. No human remains or burials were identified within this test excavation.

All three data recovery test excavations identified multiple cultural layers designated as part of SIHP # -5820. Oftentimes, the cultural layers appeared to be redeposited and historically utilized. An additional 32 associated pit features were documented.

SIHP # -5966

The planned data recovery of SIHP # -5966 (subsurface remnants of Kawa Fishpond) involved the excavation of three 6-m long by 1-m wide test excavations within the former footprint of Kawa Fishpond (Figure 12). In actuality, four data recovery test excavations were completed. Test excavation locations were based on the location of anticipated project ground disturbance, avoidance of subsurface utilities, and general distribution coverage, encompassing both the central and perimeter portions of Kawa Fishpond.

T-95A was located at the corner of Iwilei Road and North Nimitz Highway. It was oriented 162/342° TN. The test excavation ended up being 3.3 m long by 1 m wide, and it reached a maximum depth of 2.07 mbd. This test excavation documented three layers of silty clay that are believed to associated with Kawa Fishpond and earlier lagoonal sediment. The uppermost silty clay layer is believed to be associated with Kawa Fishpond, while the middle layer may represent either an early period of the pond's use or may predate the pond. The lowest layer represents lagoonal sediment that predates the pond. The middle silty clay layer contained two *kukui* nut shell fragments and a ceramic sherd. The lagoonal sediment contained coral pieces. No features were observed in this test excavation.

An extension of T-95A was excavated off of the southeast edge of T-95A in order to compensate for the shortened length of T-95A. The extension was oriented 110/290° TN. The test excavation ended up being 4.3 m long by 1 m wide, and it reached a maximum depth of 1.85 mbd. This test excavation documented four layers of silty clay and silty sandy clay. The uppermost three layers appear to be related to Kawa Fishpond, while the lowest layer appears to be earlier lagoonal sediment. A volcanic glass flake was recovered from the upper Kawa Fishpond layer. The middle

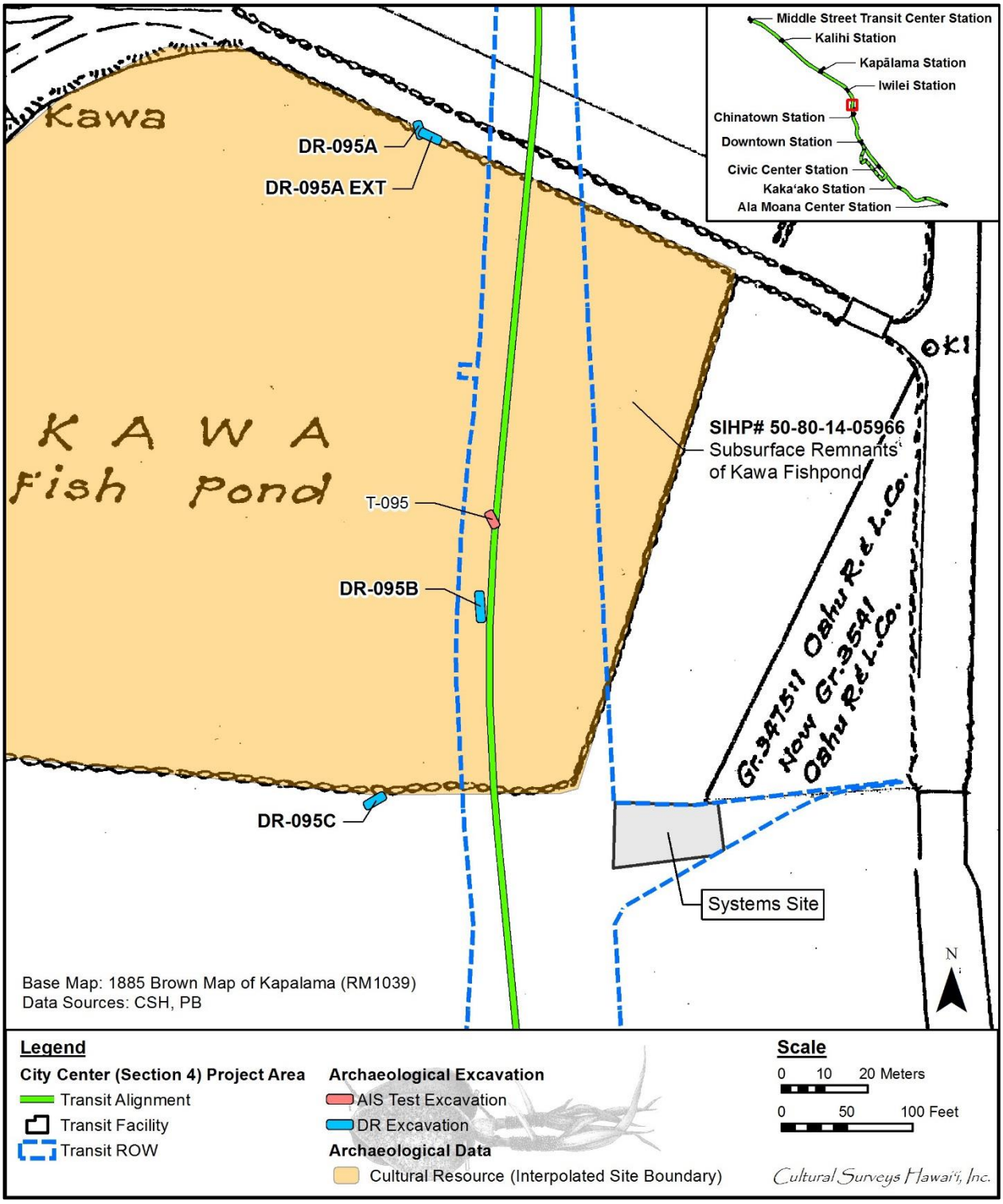

Figure 12. 1885 Brown map of Kapalama depicting data recovery test excavations within the former footprint of Kawa Fishpond

Kawa Fishpond layer contained abundant shell and two *kukui* nuts. No features were observed in this test excavation

T-95B was located within Higa Meat Market on North Nimitz Highway. It was oriented 8/188° TN. The test excavation ended up being 6.15 m long by 0.92 m wide, and it reached a maximum depth of 1.9 mbs. This test excavation was determined to have been previously heavily disturbed. The stratigraphy consisted solely of fill layers with no natural sediments encountered. No remnants of Kawa Fishpond were observed. One of the fill layers, a compacted and oiled surface, may represent a former historic road or land surface.

T-95C was located between Awa Street and North Nimitz Highway. It was oriented 60/246° TN. The test excavation ended up being 4.4 m long by 1 m wide, and it reached a maximum depth of 2.13 mbd. This test excavation was determined to have been previously heavily disturbed. The stratigraphy consisted solely of fill layers with no natural sediments encountered. No remnants of Kawa Fishpond were observed. Petroleum contamination was noted around 150 cmbd.

Two of the four test excavations within the former footprint of Kawa Fishpond yielded remnants of the fishpond and earlier lagoonal sediments, while the other two test excavations yielded heavy disturbance with multiple historic fill layers completely removing any trace of Kawa Fishpond.

SIHP # -7190

The planned data recovery of SIHP # -7190 (subsurface salt pan remnants) involved the excavation of one 12-m long by 1-m wide test excavation. The test excavation location was based on the locations of anticipated project ground disturbance and avoidance of subsurface utilities.

T-229A was located in the *mauka* lane of Pohukaina Street near the Keawe Street intersection. It was oriented 138/318° TN. The test excavation ended up being 11.6 m long by 0.91 m wide, and it reached a maximum depth of 1.3 mbs. T-229A documented two sandy clay berms that are believed to represent remnant salt pan berms, similar to that documented in T-229 of the AIS. T-229A also documented a layer associated with SIHP # -7189 (a subsurface burnt trash deposit) directly overlying the berms. SIHP # -7189 was identified during the project's AIS, but was not selected for data recovery. A large wood post, possibly a remnant telephone pole or lamp post, was observed in a test excavation sidewall.

SIHP # -7427

The planned data recovery of SIHP # -7427 (subsurface historic infrastructure remnants, subsurface cultural deposits, and a human skeletal element) involved the excavation of three 4-m long by 1-m wide test excavations located east of Nimitz Highway near the Kekaulike Street intersection and within the proposed location of the Chinatown Station. In actuality, five data recovery test excavations were completed. Test excavation locations were based on the locations of anticipated project ground disturbance, avoidance of subsurface utilities, and the identified locations of targeted cultural resource components (such as culturally enriched strata).

T-99A was oriented 144/324° TN. The test excavation ended up being 6.2 m long by 1.1 m wide, and it reached a maximum depth of 0.97 mbs. This trench was shifted 1.55 m to the southeast of the planned location in order to avoid utilities and maintain planned test excavation dimensions. An additional section of Feature 10 from the AIS, a concrete floor (possible building foundation), was further documented within this test excavation (Figure 13). A gravelly clay imported fill layer was documented overlying Feature 10. It contained metal and rubber pieces, a metal utility pipe, and three metal rods. The excavation of T-99A could not be completed past 0.97 mbs due to the

Figure 13. Photograph of SIHP # -7427 Feature 10, concrete floor, within T-99A

Figure 14. Photograph of large boulders creating voids and instability in T-99A

presence of extremely large boulders that created voids resulting in instability and which prevented shoring of the test excavation (Figure 14).

T-100A was oriented 70/250° TN. The test excavation ended up being 5.35 m long by 1.1 m wide, and it reached a maximum depth of 1.62 mbd. An additional section of Feature 10 from the AIS, a concrete floor (possible building foundation), was further documented within this test excavation (Figure 15). A new feature (Feature 15), a mortared brick structure situated atop large basalt boulders, was documented in the northeast end of the test excavation (Figure 16). This feature is similar to another brick wall feature, Feature 1, identified in T-96 during the AIS. This feature is a possible late nineteenth century building foundation. The excavation of T-100A could not be completed past 1.62 mbd due to the presence of large boulders that created voids resulting in instability and which prevented shoring of the test excavation.

T-100B was added to further explore and document Feature 15. It was oriented 70/250° TN and abutted T-100A to the east. The test excavation was 4.25 m long by 1.1 m wide, and it reached a maximum depth of 1.3 mbd. Additional portions of both Features 10 and 15 were encountered (Figure 17 and Figure 18). Window glass and ceramic fragments were collected from sediment surrounding and possibly associated with Feature 15. A new feature (Feature 21), a wired concrete and steel I-beam column support, was documented within the test excavation on top of Feature 10 (Figure 19). The excavation of T-100B could not be completed past 1.3 mbd due to the presence of large boulders that created voids resulting in instability and which prevented shoring of the test excavation.

T-101A was oriented 5/185° TN. The test excavation ended up being 5.5 m long by 1.1 m wide, and it reached a maximum depth of 1.92 mbd. The test excavation was shifted 85 cm Diamond Head to avoid an existing utility. T-101A documented several culturally-enriched fill strata. One of the strata appeared to be locally procured natural alluvium used as fill. It contained abundant marine shells, historic artifacts, faunal bone, indeterminate (cannot be determined as to whether it is human or faunal) bone fragments, and a probable human vertebra fragment. Another fill stratum was composed of gravelly sandy silt loam and contained historic artifacts, shell, and a probable human rib fragment. Another fill layer was a burned trash deposit containing historic artifacts, faunal bone, and a possible human long bone shaft fragment. Another layer was composed of gravelly sandy loam fill and contained scattered coral and basalt boulders, historic artifacts, faunal bone, and indeterminate bone. An additional layer appears to be the heavily disturbed upper portion of the natural alluvium present in the area. It contained abundant faunal bone, historic artifacts, and slag. No historic structural remnants were observed in this test excavation.

T-101B was oriented 84/264° TN. The test excavation ended up being 4.25 m long by 0.92 m wide, and it reached a maximum depth of 2.12 mbs. This test excavation documented five new features (16–20), including two coral concentrations, a historic trash pit containing artifacts and faunal bone, an indeterminate pit containing faunal bone and organic material, and a flat, prepared former land surface containing faunal bone and historic artifacts. An additional portion of Feature 14 from the AIS, a historic trash pit, was also documented. It contained artifacts and faunal bone. No historic structural remnants were observed in this test excavation.

The five data recovery test excavations within SIHP # 7427 identified additional subsurface historic infrastructure remnants, subsurface cultural deposits, and isolated human skeletal remains. An additional seven features associated with this archaeological cultural resource were documented, and two previously-identified features were further documented.

Figure 15. Photograph of SIHP # -7427 Feature 10, concrete floor, within T-100A

Figure 16. Photograph of SIHP # -7427 Feature 15, mortared brick structure, within T-100A

Figure 17. Photograph of SIHP # -7427 Feature 10, concrete floor, within T-100B

Figure 18. Photograph of SIHP # -7427 Feature 15, mortared brick structure, within T-100B

Figure 19. Photograph of SIHP # -7427 Feature 21, mortared brick structure, within T-100B

SIHP # -7428

The planned data recovery of SIHP # -7428 (subsurface cultural deposit and subsurface infrastructure remnants) involved the excavation of three 6-m long by 1-m wide test excavations Test excavation locations were based on the locations of anticipated project ground disturbance, avoidance of subsurface utilities, and targeted areas of pit feature concentrations (i.e., within the vicinity of T-120 and T-120A).

T-120C was located on the sidewalk of Halekauwila Street fronting the Federal Department of Labor office. It was oriented 146/326° TN. The test excavation ended up being 6.57 m long by 0.91 m wide, and it reached a maximum depth of 1.55 mbs. This test excavation documented a culturally enriched A horizon and 19 associated features that extended into underlying natural Jaucas sand. The upper boundary of the cultural layer was truncated and disturbed. The cultural layer contained charcoal, faunal bone, and Traditional Hawaiian artifacts (a shell fishhook and an *ulu maika*). The features contained items such as charcoal, shell, FAR, burned coral, basalt cobbles, and faunal bone. Most of the features are indeterminate pits, but two possible fire pits and a concentration of basalt cobbles were documented.

T-120D was located on the sidewalk of Halekauwila Street fronting the Federal Department of Labor office. It was oriented 152/332° TN. The test excavation ended up being 6.8 m long by 0.91 m wide, and it reached a maximum depth of 1.55 mbs. This test excavation documented a culturally enriched A horizon and 12 associated features that extended into underlying natural Jaucas sand.

The upper boundary of the cultural layer appeared to be truncated and disturbed. The cultural layer contained faunal bone and Traditional Hawaiian artifacts. The features contained items such as Traditional Hawaiian and historic artifacts, basalt cobbles, charcoal, shell, and faunal bone. Most of the features are indeterminate pits, but a possible trash pit and a possible fire pit were documented.

T-120E was located on the sidewalk of Halekauwila Street fronting the Federal Department of Labor office. It was oriented 142/322° TN. The test excavation ended up being 6.8 m long by 0.92 m wide, and it reached a maximum depth of 1.53 mbs. This test excavation documented a culturally enriched A horizon and 15 associated features that extended into underlying natural Jaucas sand. The cultural layer contained charcoal, FAR, shell, basalt cobbles, water-worn cobbles, faunal bone, and Traditional Hawaiian and historic artifacts. The features contained cultural material such as charcoal, FAR, faunal bone, shell, historic and Traditional Hawaiian artifacts, and basalt and coral cobbles. Most of the features were indeterminate pits, but a possible *imu*/cooking pit and two charcoal concentrations were documented.

The three data recovery test excavations identified additional portions of the SIHP # -7428 cultural layer and 46 additional pit features. The cultural layer and associated features range from pre-Contact through historic times.

SIHP # -7429

The planned data recovery of SIHP # -7429 (a subsurface cultural deposit and a human skeletal element) involved the excavation of two 6-m long by 1-m wide test excavations. Test excavation locations were based on the locations of anticipated project ground disturbance and avoidance of subsurface utilities.

T-168C was located in the parking lot of a Ross Dress For Less store near the intersection of Ward Avenue and Queen Street. It was oriented 14/194° TN. The test excavation ended up being 6.1 m long by 0.91 m wide, and it reached a maximum depth of 1.98 mbs. T-168C documented a cultural layer and ten associated features. The cultural layer appears to have been impacted by multiple historic grading events. The layer contained charcoal, wood, faunal bone, shell, and historic artifacts. Most of the features were indeterminate pits, but a historic trash pit was documented. The features contained cultural material such as charcoal, shell, coral cobbles, wood, faunal bone, and historic artifacts. A fill layer above the cultural layer contained cut basalt stones (no formal arrangement) in addition to construction debris (Figure 20).

T-168D was located in the parking lot of a Ross Dress For Less store near the intersection of Ward Avenue and Queen Street. It was oriented 14/194° TN. The test excavation ended up being 6.1 m long by 0.93 m wide, and it reached a maximum depth of 2.05 mbs. T168D documented two culturally-enriched layers with 15 associated features. The upper cultural layer appeared to be a fill layer that was utilized as a historic land surface. It evinced a strong petroleum smell and had one associated feature. The lower cultural layer formed on natural Jaucas sand and had 14 associated features. The cultural layers contained shell, faunal bone, and historic artifacts. All of the features appeared to be indeterminate pits and contained cultural material such as basalt cobbles, shell, faunal bone, charcoal, slag, and historic artifacts.

Both data recovery test excavations identified cultural layers designated as part of SIHP # -2918. An additional 25 associated pit features were documented.

Figure 20. Photograph of cut basalt block from within a fill layer in T-168C

Additional Human Remains (*Iwi Kūpuna*) Documented During Data Recovery

During the City Center (Section 4) AIS, *iwi kūpuna* were identified in seven specific test excavations falling within four out of the 19 total designated cultural resources existing within, or immediately adjacent to, the City Center AIS study area. *Iwi kūpuna* identified during the City Center AIS were found within SIHP #s -2918 (two identifications of *iwi kūpuna* within T-226C and T-227A), -5820 (three identifications of *iwi kūpuna* within T-141, T-142, and T-150), -7427 (one identification of *iwi kūpuna* within T-096), and -7429 (one identification of *iwi kūpuna* within T-170).

Subsequent data recovery excavations were carried out at four cultural resources containing *iwi kūpuna* that were identified during the City Center AIS (SIHP #s -2918, -5820, -7427, and -7429) as well as for an additional four historic properties (SIHP #s -2963, -5966, -7190, and -7428) (see Yucha et al. 2014). HART and SHPD agreed that should *iwi kūpuna* be encountered during data recovery investigations, these *iwi kūpuna*, like the *iwi kūpuna* encountered during the AIS, would be considered previously identified per HRS §13-300 (Yucha et al. 2014:4). During data recovery in these eight historic properties, additional *iwi kūpuna* were identified in three specific data recovery excavations falling within SIHP #s -2918 and -7427: in # -2918, there was one

identification of *iwi kūpuna* within T-226E and one identification of *iwi kūpuna* within T-226F; in # -7427, there was one identification of *iwi kūpuna* within T-101A. The *iwi kūpuna* finds and cultural resources identified during the City Center AIS and subsequent data recovery process are summarized in Table 2.

Table 2. Summary of *Iwi Kūpuna* Documented in the City Center AIS (Black) and DR (Blue)

SIHP # (50-80-14-)	**General Location of Find**	**Test Excavation #**	**TMK**	**Nature of *Iwi Kūpuna* Find/Archaeological Context**
2918	Located along Punchbowl Street near the Ala Moana intersection, *makai* of Pohukaina Street between Punchbowl and South Streets	T-226C	[1] 2-1-027-(plat)	At Feature 13 (a truncated burial pit), excavation ceased upon the discovery of human skeletal remains consisting of a pelvis with no articulating leg elements.
		T-226E	[1] 2-1-027 (plat)	Disarticulated and previously disturbed human bone fragments (a rib fragment and a parietal [skull] fragment) found within central portion of trench, immediately below sandy sediment containing fire-altered basalt rock, historic artifacts, marine shell midden, and charcoal.
		T-226F	[1] 2-1-027 (plat)	Disarticulated and previously disturbed human bone fragments (occipital bone, long bone, adult finger bone, child's finger bone, and a vertebra; all fragments) uncovered within central portion of trench, immediately below sandy sediment containing fire-altered basalt rock, marine shell midden, and charcoal.
		T-227A	[1] 2-1-027 (plat)	Feature 27 consisted of human skeletal remains within Jaucas sand that were identified as a partial infant burial. The burial was determined to be an infant of 0–3 years based on the size and growth development of the remains.

SIHP # (50-80-14-)	General Location of Find	Test Excavation #	TMK	Nature of *Iwi kūpuna* Find/ Archaeological Context
5820	Located in the vicinity of Mother Waldron Park and Halekauwila Street, from Keawe Street to east of Ohe Street	T-141	[1] 2-1-051 (plat)	Disarticulated and scattered human skeletal remains were found within Feature 1 (a large pit with an in situ horse burial), Feature 31 (a pit feature), and the upper boundary of the Jaucas sand.
		T-142	[1] 2-1-051 (plat)	An in situ human burial within Jaucas sand was only minimally uncovered during a test excavation to confirm the presence of a burial. In addition, human skeletal fragments were found within Feature 6, consisting of two teeth and a small cancellous bone fragment.
		T-150	[1] 2-1-050:067	A single worked human tibia fragment utilized as a tool was encountered within Feature 18 (a pit feature), originating from the buried A horizon.
7427	Located 3 m east of Nimitz Highway near the Kekaulike Street intersection	T-096	[1] 1-7-002:025	A single previously disturbed human talus bone was encountered within fill sediment.
		T-101A	[1] 1-7-002:026	Human skeletal remains consisting of a vertebra fragment and a rib fragment found in central portion of trench within fill layers also containing faunal skeletal remains, bricks, nails, glass fragments, ceramics, and charcoal. Approximately 10–12 additional small, worn bone fragments (not definitively identifiable as human) were found in other fill layers of trench.

SIHP # (50-80-14-)	General Location of Find	Test Excavation #	TMK	Nature of *Iwi kūpuna* Find/ Archaeological Context
7429	Ross Dress for Less store adjacent throughway parking lot, located near the intersection of Ward Avenue and Queen Street	T-170	[1] 2-3-002:059	Feature 6 consisted of a single, isolated human cranial fragment, identified as a left temporal bone portion including the mastoid process and the root of the zygomatic arch, discovered in situ within the buried A horizon.

Conclusion

As previously stated, the purpose of the data recovery investigation is to mitigate the project's effect on significant cultural resources. Data recovery fieldwork was performed in order to answer cultural resource-specific research questions. This data recovery investigation involved the excavation of 23 test excavations within eight cultural resources: SIHP #s 50-80-14-2918, subsurface cultural deposits including human burials and isolated human skeletal remains; -2963, a subsurface cultural deposit, subsurface pond sediments, human burials, and animal burials; -5820, subsurface cultural deposits including human burials; -5966, subsurface remnants of Kawa Fishpond; -7190, subsurface salt pan remnants; -7427, subsurface historic infrastructure remnants, subsurface cultural deposits, and isolated human skeletal remains; -7428, a subsurface cultural deposit and subsurface infrastructure remnants; and -7429, a subsurface cultural deposit and a human skeletal element. The data recovery investigation further documented all eight cultural resources. Isolated human skeletal remains were identified from SIHP #s -2918 and -7427.

Data recovery methods followed the procedures outlined in the SHPD-accepted data recovery plan (Yucha et al. 2014). Minor changes were made in test excavation size and placement. Three additional data recovery test excavations were added during fieldwork in order to compensate for test excavations that could not be completed due to safety issues and to further document subsurface features. Two test excavations were added to further investigate SIHP # -7427 and one test excavation was added to further investigate SIHP # -5966.

Per the data recovery plan, the data recovery investigation involved 100% collection of feature fill, a 25% screened sample of culturally-enriched sediments, bulk samples from each incremental level of a cultural deposit, periodic column samples, and hand collection of observed charcoal, artifacts, and faunal remains. A total of 199 features were documented among the eight cultural resources. The total number of individual sample bags to be processed is 1,284. Laboratory analysis of these samples is currently underway and involves screening, sorting, identifying, weighing, and cataloguing the collected material. Specialized analyses will include wood taxa identification, radiocarbon analysis, palynological analysis, resistivity analysis, and Energy Dispersive X-Ray Fluorescence (EDXRF) analysis. These analyses should be able to provide detailed information regarding land use and more precise date ranges for each cultural resource.

Pursuant to HRS §13-13-275-9(d), CSH requests verification of completion of the detailed mitigation plan, thus allowing construction to proceed. The comprehensive archaeological data recovery report is currently being prepared and will be submitted upon completion.

If you have any questions or comments, please feel free to call Matt McDermott, Principal Investigator of this project, at (808) 262-9972 or toll free at 1-800-599-9962. You may also reach Matt by e-mail at mmcdermott@culturalsurveys.com.

Sincerely,

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